CLAIMS

1. A blind fastener setting tool having a front end face against which a blind fastener is held during a setting operation, and having a piezo-electric thin film load measuring device mounted on said front end face so as to be disposed and compressed between said front end face and a fastener during said setting operation.

2. A setting tool as claimed in claim 1 in which said front end face is mounted on said tool by a bridge member so as to form a cantilever.

3. A setting tool as claimed in claim 2 wherein said load measuring device comprises a bending piezo-electric generator securely mounted on said front end face, wherein bending deformation of said generator generates a low voltage electrical signal.

4. A setting tool as claimed in claim 1, wherein the front end face has a central aperture therethrough in communication with said internal mechanism of said tool, which aperture being co-axial with a longitudinal axis of said setting tool for receipt of a mandrel of said fastener, and said load measuring device also comprises an aperture so as to be mounted co-axial with said tool axis.

5. A setting tool as claimed in claim 1, further comprising a protective cover mounted on an external face of said measuring device.

6. A setting tool as claimed in claim 1, wherein said piezo-electric thin film load measuring device generates a voltage signal related to the load exerted on the fastener, and further including a control circuit connected to receive said voltage output from said piezo-electric thin film load measuring device for measuring the load exerted on said fastener.

7. A method of measuring the load exerted on a blind fastener by a fastener setting tool during a setting operation comprising the steps of positioning a piezo-electric thin film load measuring device between a front end face of said tool and said fastener, compressing said fastener towards said front end face during the setting operation so as to compress and deform the measuring device, measuring a voltage signal created as a result of deformation of said piezo-electric thin film load measuring device and analysing said signal as indicative of the load exerted on said fastener.

8. A method as claimed in claim 7 wherein said load measuring device is mounted on a cantilevered front end face of a setting tool and said front end face is caused to bend as a compressive force is applied thereto, whereby said deformation of said piezo-electric thin film comprises a bending deformation to generate said signal.

9. A method as claimed in claim 7, comprising the further steps of determining the measured time difference between a first load peak corresponding to a mandrel entry point and a second load peak corresponding to a mandrel setting point of such fastener and comparing said measured time difference to a predetermined time difference value indicative of an optimum setting time difference and generating an output signal in the event that the measured time difference is greater than the predetermined time difference indicative of a free set operation.